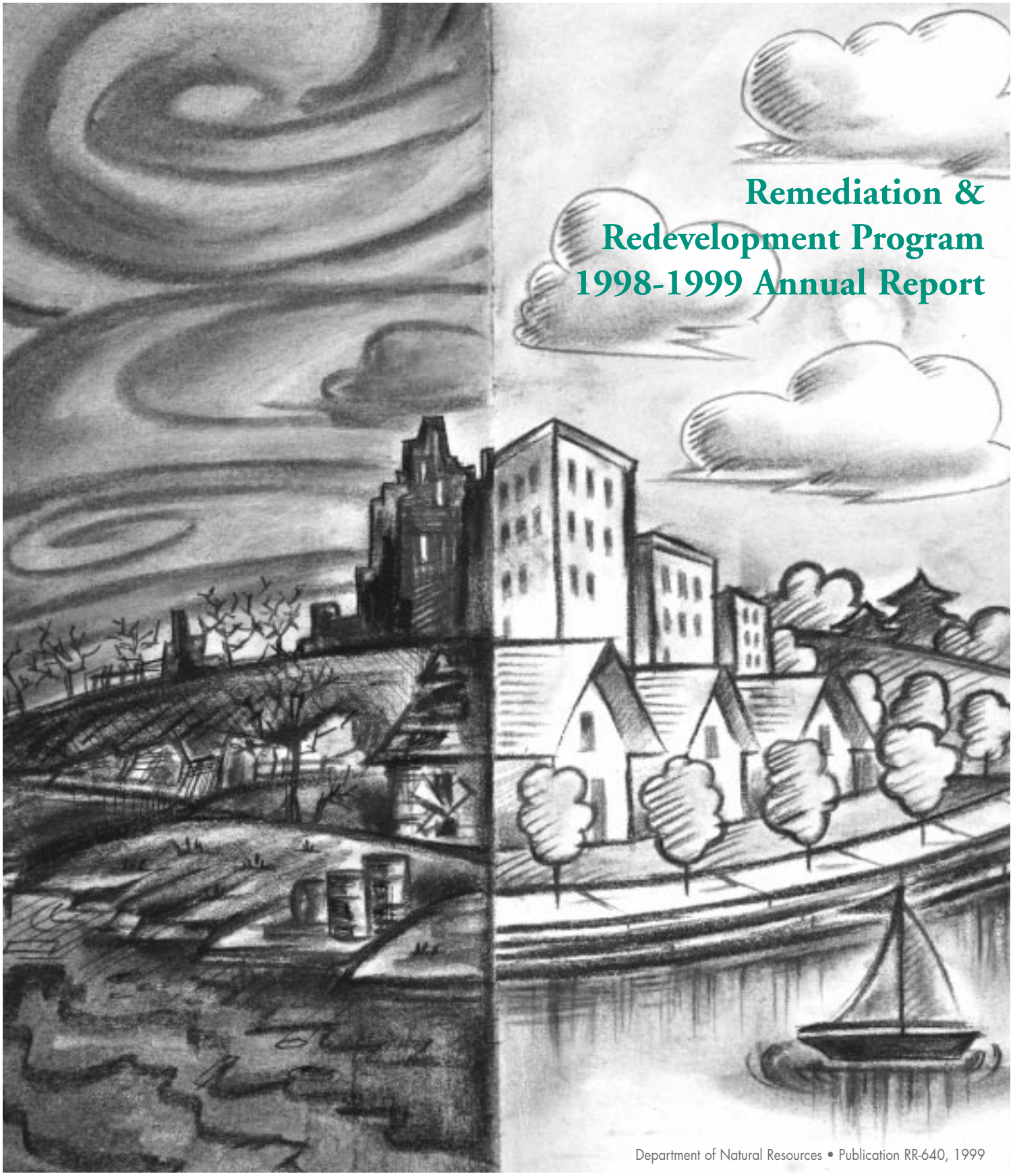

Remediation & Redevelopment Program 1998-1999 Annual Report

Department of Natural Resources • Publication RR-640, 1999

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Environment
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Cleanup
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Remediation & Redevelopment 1998 - 1999 Annual Report

A MESSAGE FROM George Meyer

George Meyer

SECRETARY, WISCONSIN DEPARTMENT OF NATURAL RESOURCES

I'm pleased to bring you the second annual report on the progress the Department of Natural Resources has made in responding to and restoring contaminated properties around our state. This report summarizes the Remediation and Redevelopment's 1998-1999 accomplishments in state-funded cleanup, spills, controlling cleanup costs and implementing new programs like the dry cleaner reimbursement fund, as well as highlighting recent successes in brownfields assessments, cleanup and redevelopment. Over the past year we've listened to our customers and worked with them to improve our efforts in effectively cleaning up and reusing sites. We will continue to work with them as we develop the new initiatives in the latest state budget. These initiatives build on the success of the state's land recycling and brownfields initiatives in the 1990s, and bode well for the future health of Wisconsin's environment, citizens, businesses and communities in the 21st Century.

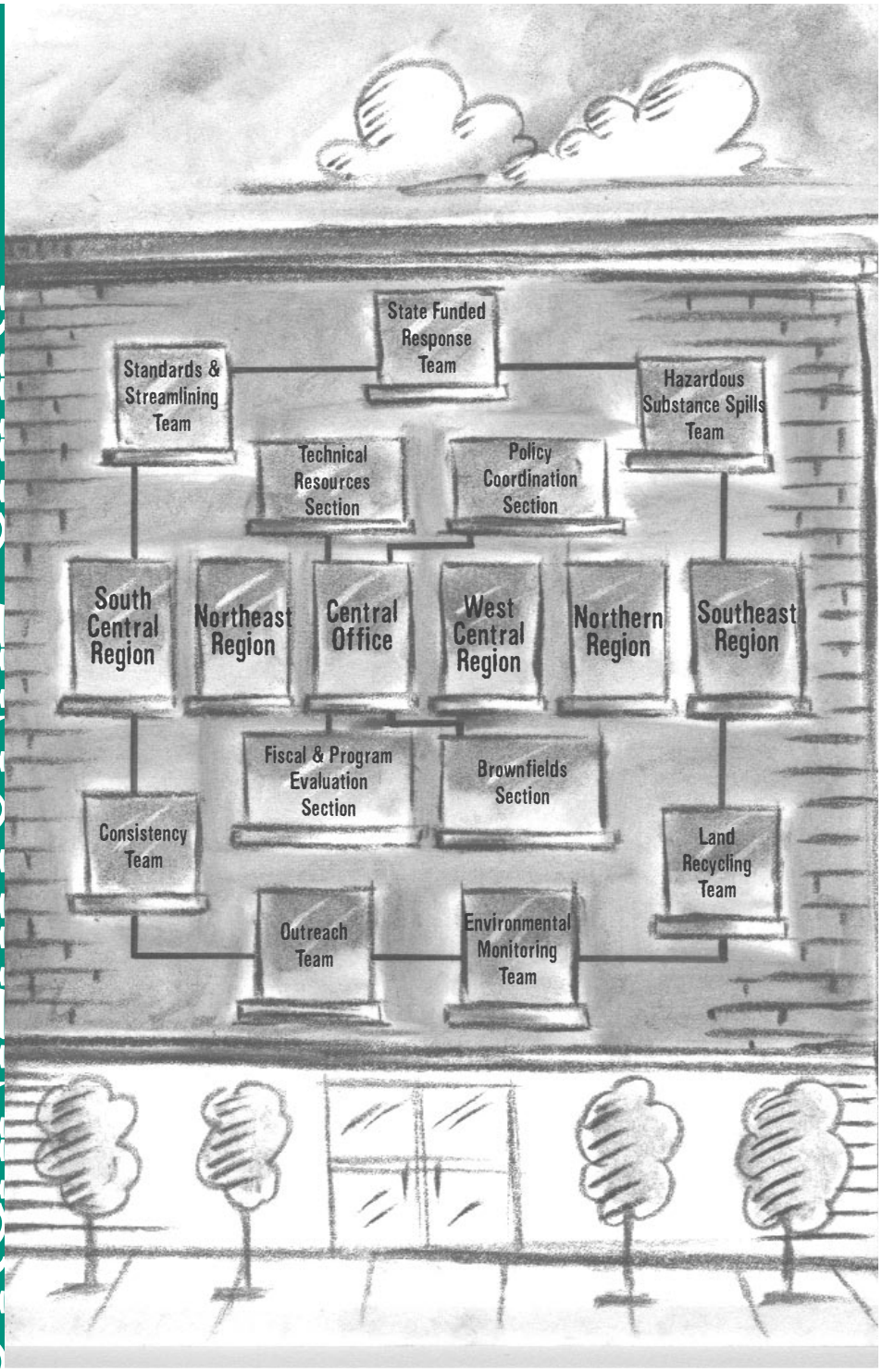
Mission

The Remediation and Redevelopment (RR) Program promotes the cleanup and return of contaminated properties in Wisconsin to environmentally safe and productive use by relying on public, private, and community partnerships.

In September 1995, as part of an agency-wide reorganization, the Department of Natural Resources - with advice from various customers - created the Remediation and Redevelopment Program to bring under one umbrella agency staff responding to environmental contamination.

The Remediation and Redevelopment Program now focuses on restoring contaminated properties, and also on returning restored properties to productive use. Program areas under the Remediation and Redevelopment umbrella include: state-funded cleanups, spills and abandoned container responses, some leaking underground storage tanks sites, brownfields redevelopment, federal Superfund sites, closed land-fill sites causing contamination and hazardous waste closures and corrective actions.

Organizational Chart



In 1998-1999, the Remediation and Redevelopment Program (RR) continued to make strides with its philosophy of integrating environmental, community and economic revitalization into one program. Though the RR Program is only a few years old, staff have made significant progress in helping restore environments and economies while curbing sprawl and greenspace development.

This new approach is highlighted in the year's brownfields success stories, such as the Babcock/Wilcox site in the Village of West Milwaukee. Contaminated with polychlorinated biphenyls (PCBs), the 43-acre site was a classic brownfield that no one wanted.

Working with a private developer and the city, RR staff helped assess contamination at the site and provide liability assurance letters to the developer. In April 1999, the Milwaukee Journal-Sentinel announced plans to develop a new, 225,000-square-foot production plant at the site.

The RR staff also continued to provide customers with technical, financial and public outreach assistance on a variety of issues. Staff answered more than 8,500 information requests and gave more than 100 presentations to local government officials, business entrepreneurs, consultants and the general public.

Not only did we help our customers, we also listened to what they had to say. The RR Program met every three months with an external focus group to share program information and receive feedback. The focus group includes representatives from municipalities, industries, lenders, realtors, environmental consultants, attorneys and environmental groups. Staff also met quarterly with a smaller focus group of environmental consultants who conduct investigation and cleanup of sites with contaminated soil and groundwater.

1998-99 A YEAR IN REVIEW

Public outreach efforts hit an all-time high in 1998-99 as staff announced a re-vamped web site, electronic newsletter and new telephone Information Line.

Other highlights of the program this year include:

• state-funded cleanup projects, such as the Dwyer property in Rock County; after a fire in an outbuilding on the Dwyer farm contaminated the local groundwater with pesticides, RR Program staff helped facilitate the cleanup and treatment of more than 12 millions gallons of contaminated water;

• the quick response of the RR spills team to clean up mercury spills in two Wisconsin communities, as well as the Lakehead pipeline spill in Superior; and

• the Brownfields Environmental Assessment Program (BEAP); the BEAP is a joint federal and state-funded program that provides cost-free environmental assessments to local governments to help jump-start the development of brownfields properties; of the 43 properties assessed by the DNR, 17 have received some type of financial investment totaling $6.5 million; post-development value of nine of those BEAPS is estimated at $60 million.

With thousands of contaminated sites remaining in Wisconsin, the Remediation and Redevelopment Program will build on its successes in 1998-1999, and move forward with its mission to promote the clean up and reuse of Wisconsin's contaminated properties.

1998-99 By the Numbers

Case Closed!

The RR Program issued more than 1,100 completed cleanup approvals (closure letters) in 1998-99. Closure letters are issued by the DNR when no further remediation is necessary because the environment has sufficiently been cleaned up. In many cases, a closure letter means a site is ready for redevelopment. The RR Program has closed more than 3,000 sites since 1996.

Program staff have also provided other assistance with the investigations, planning and cleanup of contaminated sites. In 1998-99, this assistance included:

- 49 "No Further Action" letters;
- 12 Certificate of Completion letters;
- 5 general liability clarification letters;
- 47 off-site contamination exemption letters.

Hit The Road

The RR Program staff made more than 100 presentations to local governments across Wisconsin, including officials from the cities of Amery, Green Bay, Greenfield, Janesville, Kenosha, Milwaukee, and St. Francis, and from Dane, Douglas, Kenosha, Lincoln, Milwaukee and Taylor counties.

Is The Caller There?

During the last year the RR's Information Line handled an estimated 2,000 telephone calls, averaging more than 166 calls per month. The program's Information Line helps callers learn about the RR Program and its web site, find out about the latest RR news, or order program publications (to reach the Information Line, call 800-367-6076 for in-state long distance and 608-264-6020 for Madison area and out-of-state long distance).

In addition, RR Program staff handled more than 8,500 information requests through telephone calls, email requests or personal contacts.

Net Results

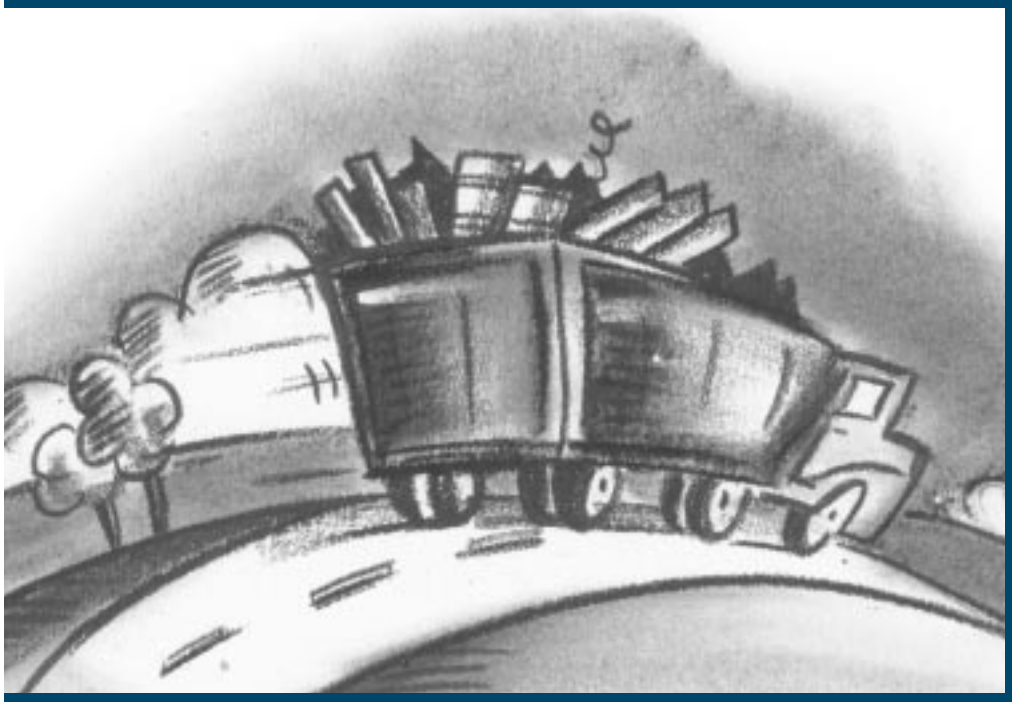
The RR Program's new web site has been a tremendous success, with more than 335,000 total visits or "hits" estimated in 1998-99, which averages out to more than 28,000 hits per month. The site has been so successful staff shut down the old electronic bulletin board service (BBS), which was set up before the web site became operational.

1998-99 By the Numbers

Besides the Home Page and General Information Page, some of the most popular spots to visit on our web site include the publications, technical and database pages (check out our web site at www.dnr.state.wi.us/org/aw/rr).

On Display

Program staff took our traveling display and program video to a number of workshops and conferences during 1998-99, including the Sustainable Wisconsin Conference (October, 1998); the Wisconsin Groundwater Association Conference (November, 1998); the Wisconsin Land Use Law and Policy Conference (May, 1999); the Small Business Administration Lenders Symposium (May, 1999); and the Federal and State Resources Roundtable (June, 1999).



State-Funded Cleanup

The State-funded Cleanup Program uses the Environmental Fund to cover costs for investigation and cleanup of sites with serious environmental contamination where the responsible party is unknown, unable or unwilling to take action.

The fund covers a variety of activities, including installation of multimillion-dollar landfill caps and explosive gas extraction systems, extracting contaminants from soils with vacuum systems, providing emergency water to residents with contaminated wells, and installation of groundwater treatment systems to remove pollutants from groundwater. The RR Program contracts with private environmental consultants to perform the necessary work and whenever possible recovers state expenditures from responsible persons.

In 1998-99, approximately 37 projects were budgeted using state funds estimated at $18.63 million. Many of these projects are sites with continuing cleanup needs. The funds will cover sampling of soils and groundwater to confirm types and levels of contamination and also full-scale construction of cleanup systems.

State-funded projects for 1998-99 include properties in the following areas: Amery, Ashland, Beloit, Chippewa County, Delafield, Door County, Edgerton, Elderon, Ellenboro, Goodman, Grafton, Green Bay, Hayward, Janesville, Madison, Marathon City, Mayville, Middleton, Milton, Milwaukee, Minocqua, Mt. Calvary, New Holstein, Onalaska, Oshkosh, New Berlin, New Richmond, Rice Lake, Spring Brook, Stoughton, Waukesha, and Waupaca.

The Dwyer Fire - **A State-funded Success**

On February 22, 1990, a fire occurred in an outbuilding of the Dennis Dwyer Farm, located about 2.5 miles northwest of the City of Beloit in Rock County. The building, which was destroyed in the fire, was used for storage of pesticides, foam insulation supplies and other equipment.

Within a day or two of the fire, several homeowners in the area contacted the DNR because they noticed a strange taste in their drinking water. A number of homes located near the site were on private water supply wells drilled into fractured dolomite and sandstone.

State-Funded Cleanup

Riverside Plating Site - Workers perform demolition activities at the Riverside Plating Company site in Janesville. The company, which operated a decorative plating business using chromium, copper, zinc, cadmium, nickel, and cyanide, declared bankruptcy in the early 1980s and the property had been listed as vacant since 1981. The soil around the outside and beneath the building contained elevated levels of metal in the soils commonly associated with the plating industry. The contamination has been removed and the site is now a grassy open area. The state is pursuing several options to recover costs and return the property to the tax rolls. (photo by Steve Ales, DNR)

The department initiated sampling of the private wells and determined that several of the wells had been impacted by pesticides at high levels and also by some volatile organic compounds (VOCs), likely the result of the fire at the Dwyer farm. The greatest impacts were from Alachlor, Clomazone, Bentazon and Chlorobenzene.

Because the owner of the farm was financially unable to proceed with remedial action, the DNR took over the site as a "state lead" project using State Environmental Fund money to investigate the extent of the contamination and to design and construct a remedial system and implement groundwater treatment.

The remedial option ultimately selected for treatment of the contaminated groundwater was an UV-Oxidation System. The system pumps groundwater to the surface and uses hydrogen peroxide and UV light to break down the pesticides in the groundwater before the treated water is re-injected into the aquifer. Operations began at the end of January 1998. By the end of August 1999, more than 12 million gallons of pesticide-contaminated groundwater had been treated to levels where contamination is not detectable. The RR Program utilized the State Environmental Fund to help pay for investigating and cleaning up the groundwater at the site. Total clean up cost to date at the Dwyer Fire Project is estimated at $1.5 million.

Mercury Spills Increase Prevention Efforts

The RR Program spills staff respond to all kinds of spills that impact the environment. In the past year, two mercury spills resulted in increased action by the RR spills team for mercury management and education about mercury use. Each incident described below could have been prevented if a better understanding of the nature of mercury and ways to contain mercury spills were known.

The RR spills team has worked with the Department of Health and Family Services to develop a fact sheet on mercury spill response, and will participate in teacher workshops aimed at preventing the hazards of poorly managed mercury. That fact sheet (publication # RR-629) will be available for distribution and posted on the RR web site in 1999.

High School Spill

One spring day this year, a high school science teacher was using elemental mercury in his science classes. A student from the class allegedly took some of the mercury out of the classroom. The student then shared the mercury with other students, who played with it in school hallways and classrooms, took it to a bowling alley, filled up bowling ball holes and rolled the balls down the lanes, spilling the mercury.

During lunch, the student also took mercury to a friend's house, where it was transferred to zip lock bags to be sold for $1 per bag. Before classes ended, the student had been called out of the classroom, the remaining mercury had been recovered and police and fire departments were notified.

By the time the mercury was retrieved from the student, it had been spread throughout the school and the bowling alley. The school was closed for three days. The bowling alley, school, school bus and one home were decontaminated. The home was condemned for human habitation for several days while cleanup crews tried to locate the residual mercury. Several students were sent to the hospital for medical monitoring and released. Cleanup costs have been estimated at $250,000.

Prairie du Chien Spill

In Prairie du Chien, mercury in a small glass jar fell out of a box when a resident was moving out of a house. The jar landed on the concrete entrance of the house and mercury splattered across the concrete, the front door and lawn next to the front stoop. One of the movers used a shovel to scoop up most of the mercury in the soil and put it into a garbage can.

The movers didn't know how to clean up the mercury spilled on the concrete, so they put down a floor mat to cover it up. They continued moving, and in the process they contaminated the carpeting in all the rooms on the ground floor of the house they were moving out of, the house they were moving into, a moving van, and several other vehicles.

After the movers found mercury on their clothing, some of them attempted to wash their clothes, contaminating the washing machine. In one house, an individual attempted to clean up the mercury by vacuuming it up, causing the release of mercury vapors, which spread throughout the house.

The new owners of the house were concerned about the mercury and notified local officials. By the time a full investigation and cleanup were conducted, twelve people had been taken to the hospital for observation and later released. Cleanup costs were estimated at more than $15,000.

What's Next?

The RR spill team is participating in a number of teacher workshops to highlight the need to secure hazardous substances and plan for responding to any chemical releases. This effort will include all chemicals used in schools, in hopes that better management will result in less exposure to dangerous chemicals and fewer chemical spills.

Lakehead Spill - Emergency crews respond to a January spill from the Lakehead pipeline in Superior. After a leak in one of the pipelines spilled natural gas liquids and crude oil onto the ground, crews needed to ignite some of the liquids until the spill could be contained. (photo by Chris Groth, DNR)

BROWNFIELDS

At the national, state and local levels, the interest in cleaning up and returning brownfields to productive use has transformed this environmental issue into a major public policy initiative. Brownfields properties present public health, economic, environmental and social challenges to the rural and urban communities in which they are located.

In Wisconsin, there are an estimated 8,000-10,000 brownfields, of which 1,500 are believed to be tax delinquent. The clean up and redevelopment of these properties helps communities re-invent their downtown and urban areas, expand the local tax base, reduce sprawl, and promote the health of their citizens and local environments.

To date, there have been two major legislative initiatives in Wisconsin dealing with brownfields properties. These initiatives have provided financial, technical and liability incentives to help property owners, developers, lenders and other interested parties clean up and redevelop contaminated and blighted properties.

Several agencies are responsible for implementing various components of Wisconsin's brownfields program. The DNR's job involves providing financial, redevelopment, technical and public education assistance for persons cleaning up and redeveloping brownfields. This assistance includes:

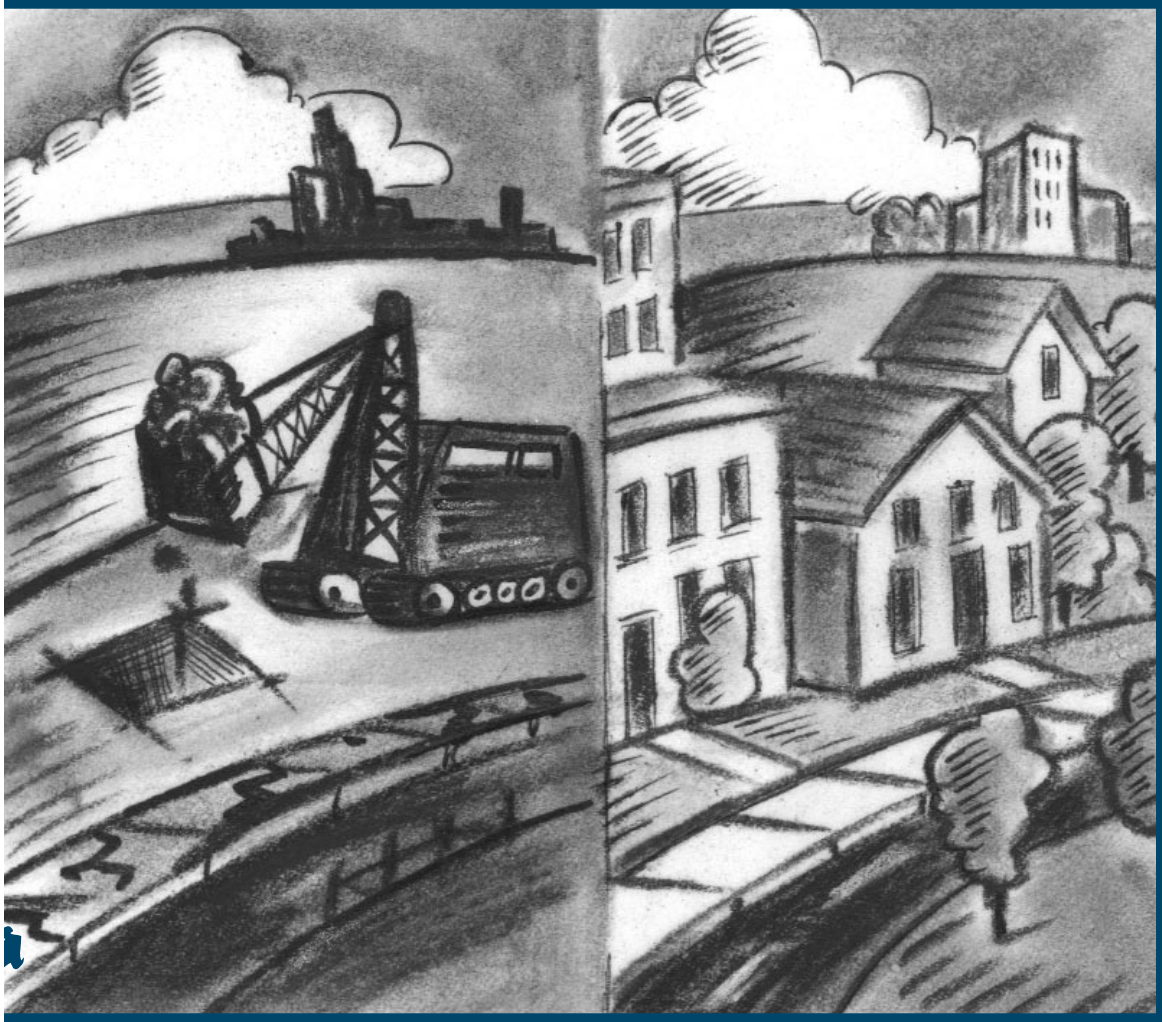
- issuing Voluntary Party Liability Exemptions (VPLE) and "no further action" letters; these documents inform property owners or future property owners they have successfully cleaned up their properties and often lead to future redevelopment opportunities;

- issuing off-site letters; these letters inform property owners or future property owners that contamination on their land comes from off-site and they are not liable for that contamination under state law;

Phoenix Metals Brownfields Site - Located in Baldwin in northwestern Wisconsin, this five-acre site was used for battery reclamation until the owners went bankrupt. Approximately 15,000 batteries were processed each week. The soil at the site was heavily contaminated with lead. After the federal government took over the site, EPA worked with the DNR and removed more than 7,000 cubic yards of contaminated soil. Today the property is being used by a local welding business and the owner has plans for expanding the company and hiring additional employees. (photo by George Anderson, DNR)

BROWNFIELDS ARE....

Abandoned or underused properties with real or perceived contamination. Brownfields sites can include a



variety of properties, including factories, warehouses, vacant agri-chemical coops, abandoned gas stations and old salvage yards.

• issuing "assurance" letters, which inform property owners, future property owners, lenders or other interested parties about their liability for investigation and cleanup of contamination, or provide information about financial assistance for brownfields;

• providing local governments with cost-free investigation and assessments of tax delinquent and bankrupt properties through the Brownfields Environmental Assessment Program (BEAP); and

• providing assistance for a number of DNR and state brownfields funding programs.

These tools have helped numerous government officials, property owners, consultants and other individuals around the state understand what kind of contamination exists on their land, what liability exists in investigating and cleaning up their land, and what financial incentives are available to help fund the investigation, cleanup and redevelopment.

Study Group Paves Way For New Brownfields Budget Proposals

In the 1997-99 Biennial Budget, the State Legislature directed the DNR to help lead a Brownfields Study Group with the goal of developing a series of proposals to enhance Wisconsin's nationally prominent brownfields program.

The study group consisted of 31 individuals appointed by DNR Secretary George Meyer. The group included business representatives, attorneys, private consultants, environmentalists, educators, and local, state and federal government officials.

This group had the unique opportunity to help shape future policy and legislation for not only the next biennial budget but for the next decade.

The study group met throughout 1998, finishing up with a final report issued at the end of December, which met the State Legislature's January 1, 1999, deadline. The report outlined more than 70 proposals covering 35 brownfields issues, most of which were incorporated into the 1999-2001 state biennial budget.

Examples of new initiatives in the budget that were put forth by the study group include the Site Assessment Grant Program and the Sustainable Urban Development Zone (SUDZ) Program. The Site Assessment Grant Program will provide funds to eligible local governments to pay for site investigation and certain cleanup activities (e.g. demolition of buildings and asbestos removal).

The SUDZ Program will promote financial incentives to cleanup and redevelop properties in several pilot cities that have area-wide contamination.

There are approximately 8,000-10,000 brownfields sites in Wisconsin, located in every type of community, from major cities to suburban areas and rural towns.

Babcock & Wilcox Brownfields Site - Remediation and Redevelopment staff Gina Keenan and John Krahling review site maps at the Babcock and Wilcox property in West Milwaukee. The 43-acre site was contaminated with polychlorinated biphenyls (PCBs) after decades of operating as a steel tubing business.

Working with a private developer and the city, RR staff helped assess contamination at the site and provide liability assurance letters to the developer. In April, 1999, the Milwaukee Journal-Sentinel announced plans to develop a new, 225,000-square-foot production plant at the site. (photo by John Feeney, DNR)

"We think this report is an excellent example of how a group of concerned citizens joined together to improve the way our communities will deal with the cleanup and reuse of urban properties into the next millennium," said Mark Giesfeldt, director of the Bureau for Remediation & Redevelopment.

To order a copy of the Brownfields Study Group Final Report, please call the DNR's Remediation and Redevelopment Information Line, 608-264-6020 (Madison area and out-of-state long distance), or 800-367-6076 (in-state long distance). The document is also available on the DNR's web site at www.dnr.state.wi.us/org/aw/ar.

Voluntary Party Program Off And Running

In 1994, the State Legislature created the process where businesses and local governments can voluntarily investigate and cleanup contaminated property. This process is called the Voluntary Party Liability Exemption (VPLE).

The VPLE process allows eligible parties to conduct investigations and cleanups of their properties and then receive limits on their future liability. This is another option that helps with the cleanup, redevelopment and resale of contaminated properties in Wisconsin.

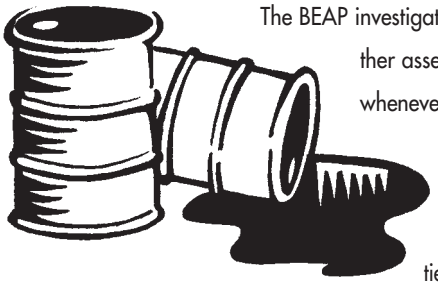
When a voluntary party completes a cleanup approved by the DNR, he/she will receive a Certificate of Completion (COC). The COC protects them from future liability for past environmental pollution under the state's spill law and specific sections of solid and hazardous waste laws, even if something was missed in the cleanup or if environmental standards change. The COC can be transferred to subsequent property owners.

As of July 1999, 67 parties have applied for the VPLE, and 12 Certificates of Completion have been issued. A number of other applicants have also received letters of assurance, which help the voluntary parties understand their options regarding liability and move the cleanup and redevelopment process along.

Brownfields Sites Get Help With State Assessment Program

Since 1996, agency staff have been conducting assessments of tax-delinquent or abandoned properties for qualifying local governments through the Brownfields Environmental Assessment Program (BEAP). The BEAP was created to assist Wisconsin communities in taking the first step toward cleanup and restoration of brownfields.

For the last four years, municipalities have applied for this state assistance and, if selected, worked with DNR staff who conducted an historical investigation of the selected properties and conducted limited soil and groundwater sampling to determine the presence or absence of contamination.



The BEAP investigations are intended to act as a catalyst to promote further assessment and voluntary cleanups at brownfield sites whenever possible. Through its first three years, the BEAP investigated 33 properties at the request of 26 local units of governments. Those properties represented 325 acres of tax-delinquent or underdeveloped properties and more than $3 million in uncollected property taxes.

To date, 17 of those properties have received some type of financial investment, totaling $6.5 million, and 50 percent have or will have new owners. The proposed post-development value of nine of those BEAP properties is $60 million, with a commitment to create 560 manufacturing and retail jobs.

In 1999, the RR Program enrolled an additional 10 properties in the BEAP, in the cities of La Crosse, Two Rivers, Whitewater and Berlin, the villages of Hartland and Weston, and in Lincoln County. Also in 1999, the RR Program released ***Building for the Future***, a summary of the BEAP and its 33 properties enrolled in the program's first three years.

Tax Incentives - Another Key Tool For Brownfields Redevelopment

In addition to liability exemptions, financial assistance and brownfields site assessments, the DNR also helps provide tax incentives to local governments, businesses or property owners. Two specific tax incentives utilized in 1998-99 could yield positive benefits in the future for Wisconsin's brownfields.

Federal Tax Incentive

As part of the Taxpayer Relief Act signed by President Clinton in 1997, businesses or property owners that clean up contaminated property are eligible to fully deduct those costs in the year in which they were incurred. The deadline to take advantage of this tax break is January 1, 2001.

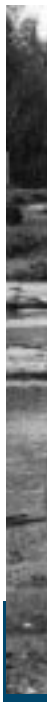
Businesses seeking this tax incentive need to obtain certification from the DNR that the property is located within an area designated by the new tax law, and that the property has had a release, threat of release or disposal of any hazardous substance (hazardous substances cannot include petroleum products).

In 1998-99, the RR Program received seven requests for certification of eligibility for the federal brownfields tax deduction, more than any other state in the nation.

Tax Cancellation Agreements

Wisconsin Statute s. 75.105 allows counties and the City of Milwaukee to cancel all or a portion of the unpaid property taxes for contaminated property if the property owner has an agreement with the DNR to clean up the property. Last year, the RR Program entered into four of these tax cancellation agreements.

This incentive provides local governments the option to remove the barrier of unpaid taxes with the potential for yielding more taxes from these properties through redevelopment.



Success Stories

This former Ashland Central Railyard housed two different rail companies, Wisconsin Central Ltd. (WCL) and Burlington Northern Railroad (BN), and various railroad companies used the 23-acre site from the 1870s until the 1980s. Contamination at the site was in the soil and groundwater and consisted of diesel fuel, waste oil, lead contamination and small quantities of hazardous wastes. After cleaning up the site, a developer purchased the properties in the mid-1990s. Today a County Market and parking lot stand on the east end of the site, and the developer has donated the western portion of the site to the City of Ashland.

BROWNFIELDS

This site in Three Lakes, Oneida County, operated as a gas and service station for more than 60 years. It was abandoned in the 1980s, and the soil was heavily contaminated with petroleum.

The tanks at the site were pulled from the ground in 1988, and more than 100 tons of contaminated soil was removed in 1995. After the buildings were razed in 1998, the First National Bank of Eagle River bought the property and capped the site with an asphalt parking lot and a new branch office.

Cost Containment

In 1998-99, the RR Program was successful in making a three-pronged effort to reduce the costs of environmental cleanups. These efforts included:

- implementing a modified risk-based approach to cleanups;
- proactively notifying owners when cleanup efforts have been sufficient; and
- providing technical guidance on low-cost cleanup options.

Modified Risk-based Approach To Cleanups

Risk-Based Corrective Action (RBCA) is a national strategy to clean up contamination based on land use and human health risk factors. In June of 1999, Attorney General James Doyle confirmed that, while many RBCA principles have been applied in Wisconsin, the state's groundwater law does not allow for a full-blown RBCA program.

The RBCA principles that are in use by the RR Program include:

- site prioritization;
- limited investigations for small sites;
- site-specific soil standards;
- natural attenuation as a remedial action;
- performance standards for sites that don't meet environmental standards;
- institutional controls such as deed restrictions; and
- flexible cleanup schedules.

Closure based on natural attenuation, which is one of the RBCA principles with high potential for reducing cleanup costs, was implemented late in 1996. Natural attenuation is the reduction in contamination due to naturally occurring physical, chemical and biological processes.

Wisconsin rules allow sites to be closed with contamination above groundwater enforcement standards, as long as monitoring shows that natural attenuation will reduce the groundwater contaminants to standards within a reasonable time.

At the end of the first quarter of 1999, 24 percent of the DNR's Petroleum Environmental Cleanup Fund Award (PECFA) sites were closed using natural attenuation, and 14 percent of all other contaminated properties were closed using this method.

Emergency rule Comm 46, promulgated in February 1999, addressed the difficulty of showing natural attenuation of petroleum in clay areas where conditions change slowly, by allowing closure of certain sites without site-specific demonstrations of natural attenuation. The emergency rule also establishes risk criteria for petroleum contamination that promote less expensive cleanups and more rapid closures.

Proactive Identification Of Sites For Closure

In September 1998, the RR Program initiated a process to close contaminated sites to the maximum extent possible by granting exemptions to preventive action limits under Ch. NR 140, Groundwater Quality, and by utilizing natural attenuation closures wherever possible.

In December of 1998, the program initiated a system to notify owners of sites when they should make a closure request. These proactive recommendations are typically made when RR staff see a natural attenuation trend, identify an institutional control that allows site closure, or believe that an active remediation system can be shut down.

COST CONTAINMENT

In the first half of 1999, program staff issued 141 proactive closure recommendations. In most cases, consultants followed the recommendation and used DNR's case closure form to submit the recommended closure information. Site owners also have the option of continuing a remediation to meet groundwater standards, with the understanding that these continued actions may not be eligible for PECFA reimbursement.

Technical Guidance For Low-cost Cleanups

The third area in which the RR Program worked to reduce environmental cleanup costs in 1998-99 was preparation of technical guidance on promoting lower-cost cleanup alternatives. "Close Out Guidance on the Use of Deed and Groundwater Use Restrictions and Deed Notices" (publication # RR-606) provides information on various institutional controls, which are tools to require or prevent certain actions by property owners, or to give notice of contamination to prospective purchasers.

These controls can save money by allowing a shorter period of active cleanup. For example, if contamination has seeped into the soil under a building, an institutional control could allow site closure with the stipulation that if the building is demolished the contamination must be removed.

This guidance also discusses closure conditions where institutional controls are required by rule, such as groundwater use restrictions when natural attenuation closure has been approved at a site with contamination above groundwater standards.

Dry Cleaners

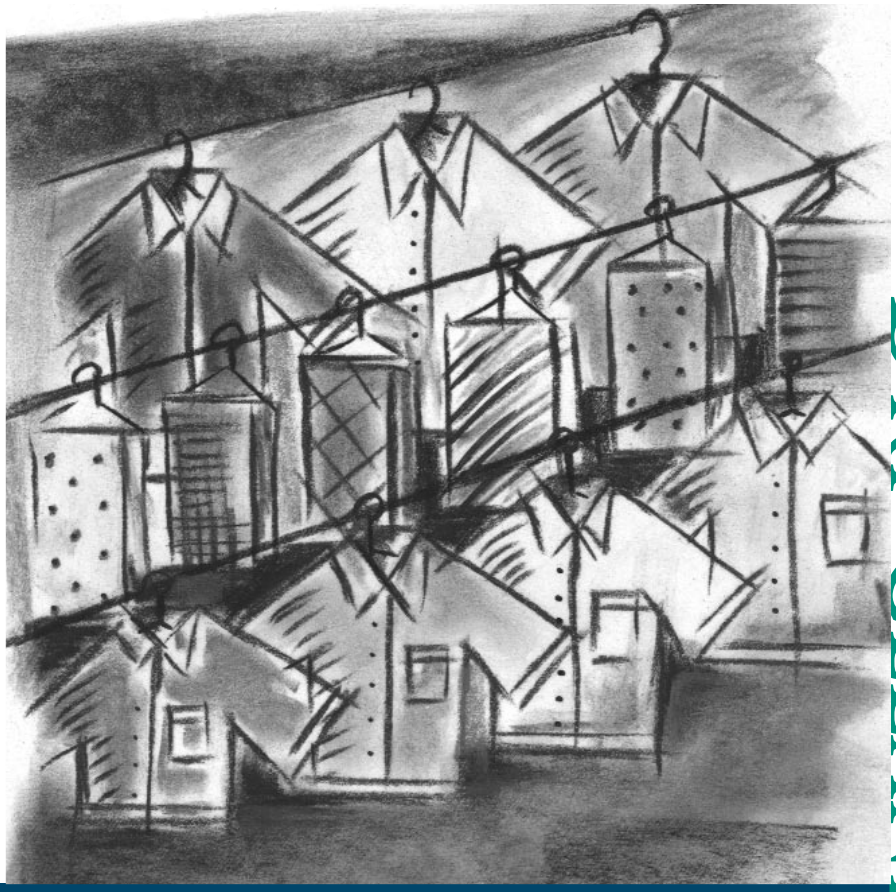
The 1997 - 1999 biennial budget bill established a new Dry Cleaner Environmental Response Program, which provides for the reimbursement of eligible cleanup costs to dry cleaners that have had a discharge of dry cleaning solvents.

The program is funded by a dry cleaning facility license fee and a solvent fee for perchloroethylene or other dry cleaning solvents. Cleanups are conducted following the NR 700 cleanup rule series. At several stages of the cleanup, the dry cleaner can submit an application for reimbursement for their costs, minus the appropriate deductibles.

The new program will lead to more identification and cleanup of dry cleaner contamination, which has been a significant stumbling block to redevelopment of abandoned dry cleaning sites.

The budget bill also created a Governor's Dry Cleaner Advisory Council to work with the DNR in evaluating the program, and required the agency to draft rules to implement the program. In the spring of 1998, the governor appointed council members and the department formed a rule-making advisory group to work with department staff and the council on rule drafting.

After the rule was drafted In January of 1999, the DNR held public hearings around the state, and in August the Natural Resources Board adopted Ch. NR 169.



Dry Cleaners

The Department of Revenue has also been collecting the license and solvent fees since 1997, and projects annual receipts of approximately $1.2 million per year for this program. Until rules are in effect, the department is prohibited from dispersing any monies from this fund for cleanups.

Outreach materials on the program have been developed and distributed to the dry cleaning industry. For further information on what materials are available, check out the RR web site at www.dnr.state.wi.us/org/aw/rr, or call the RR Information Line at 800-367-6076 (in-state long distance) or 608-264-6020 (Madison area and out-of-state long distance).

Crews work to remove contaminated soil from the former Northwestern Barrel Facility in South Milwaukee. As of October 1999, the U.S. EPA has removed approximately 192,000 tons of contaminated soil and debris from the site. (photo by Andrew Boettcher, DNR)

Since the mid-1980's, the DNR has been a partner with U.S. EPA in managing the investigation and cleanup of sites on the Superfund National Priority List (NPL). The EPA has delegated the cleanup lead to the RR Program at a number of NPL sites, where DNR staff are responsible for the cleanups.

The RR Program also assists EPA at all the sites where federal staff lead the cleanup effort. Program staff are responsible for providing information about state environmental cleanup standards to EPA.

At the current time, there are 39 Wisconsin sites on the NPL. Since the mid-1980's, two sites have been deleted from the NPL, so at one time or another a total of 41 Wisconsin sites were on the NPL (please see "Superfund Sites in Wisconsin," publication # RR-005, which is available on our web site at www.dnr.state.wi.us/org/aw/rr). Details on the status of all the Wisconsin NPL sites are also available at U.S. EPA's Superfund web site, http://www.epa.gov/R5Super/npl/wisconsin/index.html.

Federal Emergency Response

In cases where a site or situation poses an immediate threat from release or potential release of hazardous materials to the environment, the DNR can request the U.S. EPA's Superfund Emergency Response Program

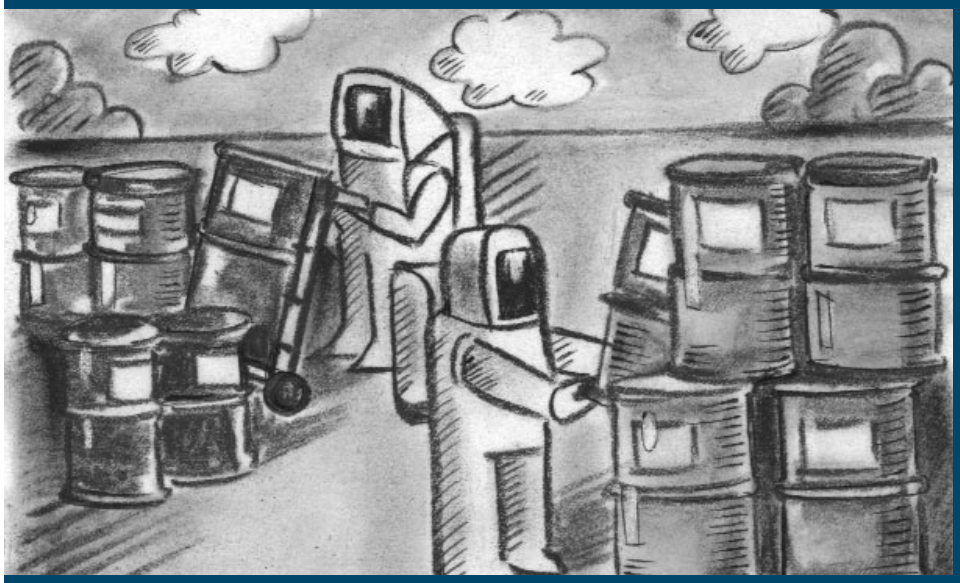
Nearly all of Wisconsin's NPL sites have completed final

for assistance. The EPA provides services for quick response to properties or situations which pose an immediate threat to human health and/or the environment.

In the past five years, the EPA has spent more than $8.3 million on removal actions at 12 sites across the state. Department staff have worked closely with EPA's On-Scene Coordinators to ensure that the state agrees with the type of removal action taken and that state standards are considered.

Emergency response, also known as removal actions, typically involves surface cleanups to eliminate the sources of contamination and prevent direct human contact with hazardous substances. Removal actions may also include securing sites to keep children off contaminated properties; providing bottled water or alternate water supplies; temporarily moving residents while cleanup efforts take place; and constructing barriers or berms to prevent contamination from spreading.

Last year EPA conducted four site assessments, managed four privately-funded removal actions, and completed one federally-funded removal action. Most sites are abandoned industrial properties with chemical wastes remaining in drums, or in the soils and/or groundwater due to poor work practices.



cleanup construction or are in the process of designing their final cleanup work.

One of the on-going privately-funded removal actions is occurring at the former Northwestern Barrel property located along the Lake Michigan shoreline in South Milwaukee. More than 192,000 tons of hazardous and non-hazardous soil and debris have been removed from this former barrel reclaiming facility.

Fox River 1998-99 - Superfund Cleanup

In 1998-99, the DNR continued its study of the contaminated sediments in the lower Fox River. The primary contaminant of concern in these sediments is polychlorinated biphenyls (PCBs). This study is in accordance with the federal Superfund law's National Contingency Plan, and its goal is to assess risk posed by the contaminants and gather information needed to assess cleanup alternatives. This includes determining types, levels and locations of contaminants, assessing health effects on people and wildlife, and evaluating possible cleanup methods.

Historically, PCBs were used in electrical equipment, hydraulic fluids, fire retardants, and other commercial and industrial processes. In the Fox Valley, the sources of the PCBs found in the sediments were primarily from the manufacturing and recycling of carbonless copy paper.

The PCBs were released to the river in wastewater discharges. Many of these PCBs settled in the river's sediment and are gradually moving into Green Bay and Lake Michigan. Studies suggest that the Fox River contributes as much as 70 percent of the annual PCB load to Lake Michigan.

The PCBs from the sediments continue to get into the food chain of the river because of the activities of small plants and animals and erosion of sediments by the river's current. The most significant threat to human health and wildlife is through fish consumption, due to PCB bioaccumulation in various fish species.

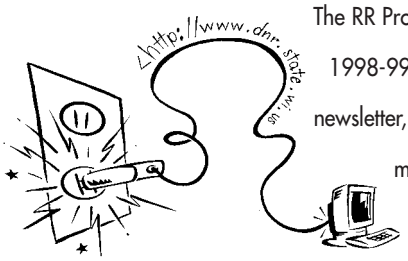
SUPERFUND

Wisconsin has issued fish consumption advisories for most species of fish caught in the Lower Fox River since 1976. The goal of the Lower Fox River cleanup is to reduce PCB contamination to levels that will ultimately allow unlimited fish consumption.

The Lower Fox River has been divided into four areas of contamination, and several cleanup options have been identified for each section. These include hydraulic and mechanical dredging, high temperature treatment of sediment, on-site and off-site sediment disposal alternatives, capping sediments in place, and using institutional controls such as continued fish advisories.

Department staff are reviewing comments from the public, other agencies and industry. A final report will be written to provide the basis for the proposed cleanup plan. The plan will include more detailed information on cleanup costs, and time frames and will be released in January or February of 2000.

Public Outreach



The RR Program took a giant step forward with its outreach efforts in 1998-99. While continuing to publish *Re-News*, the program's quarterly newsletter, the program also expanded its efforts through new electronic media, new publications, and increased outreach to local governments, businesses and consultants.

The RR Program staff made more than 100 presentations to local governments, including officials from the cities of Amery, Green Bay, Greenfield, Janesville, Kenosha, Milwaukee, and St. Francis, and from Dane, Douglas, Kenosha, Lincoln, Milwaukee and Taylor counties.

Program staff also provided presentations at a number of conferences throughout the year, including:

- Governor's Downtown Revitalization/Main Street Conference (October, 1998, Ripon);
- Marathon County Hazardous Materials Association (November, 1998,Wausau);
- UW Law Conference On Brownfields (February, 1999, Waukesha);
- Wisconsin Fabricare Institute Convention (February, 1999, Green Bay);
- Minocqua Real Estate Professionals (April, 1999, Minocqua);
- National Site Assessment Conference (May, 1999, Chicago); and
- Nuts & Bolts of Brownfields Redevelopment, HUD/EPA (June, 1999, Chicago).

The RR's traveling display and program video made it to a number of workshops and conferences during 1998-99, including:

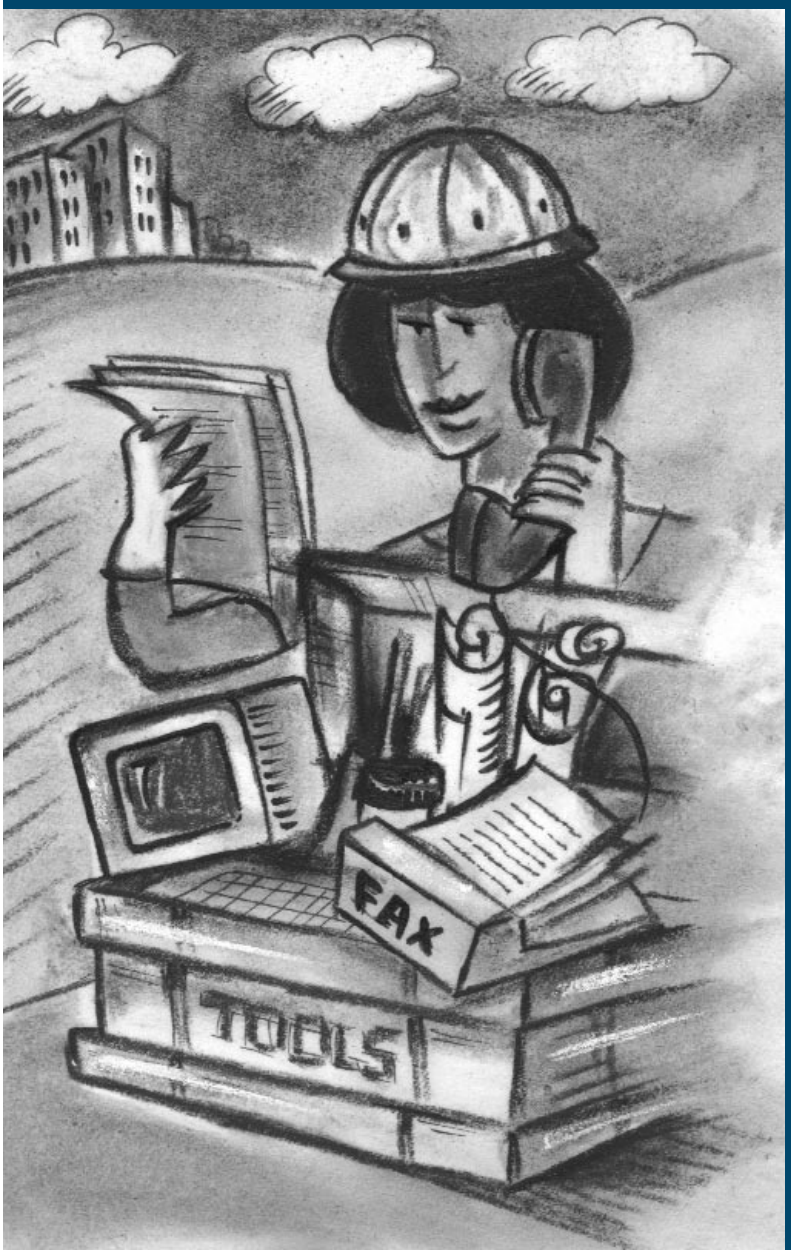
- Sustainable Wisconsin Conference (October, 1998, Madison);
- the Wisconsin Groundwater Association Conference (November, 1998, Madison);
- Small Business Administration Lenders Symposium (May, 1999, Stevens Point);
- Federal and State Resources Roundtable - Redeveloping Milwaukee's Menomonee Valley (June, 1999, Milwaukee); and
- Funding Brownfields Transactions in Wisconsin (June, 1999, Milwaukee).

Other outreach efforts included:

- launching our re-vamped web site (www.dnr.state.wi.us/org/aw/rr), which provides the most current information on all the RR programs and lists publications available for downloading;

Public Outreach

- creation of the program's listserv, a new electronic publication that is distributed bi-monthly and keeps email subscribers up-to-date on public hearings, new publications and other timely information;
- producing 21 new or revised publications; to order these publications, or to order a publications checklist, please visit our web site or call the RR Information Line (please see next bullet for telephone information);



- updating the Information Line, which provides callers the opportunity to order publications as well as provide the latest RR news and summaries of the RR programs and web site (to reach the Information Line, call 800-367-6076 for in-state long distance and 608-264-6020 for Madison area and out-of-state long distance); and

- handling more than 8,500 information requests through telephone calls, email requests or personal contacts.

The Future

While many contaminated sites throughout Wisconsin have been investigated, cleaned up and redeveloped in the 1990s, thousands more remain. Many of these sites have specific investigation and cleanup barriers that make it difficult to remediate and redevelop. As the Remediation and Redevelopment Program moves into the next century, we continue to utilize new tools and seek new methods to help solve the unique and often complex issues surrounding the state's existing contaminated properties.

Creating a Geographic Information System (GIS) is one way we're looking to the future. Geographic Information Systems allow natural resource professionals to literally "map out" layers of data for a

The Future

specific location. These GIS maps can include several layers of data, including testing wells, groundwater and surface water locations, contamination plumes, property history, nearby residential and commercial districts, vegetation and other important factors.

The GIS provides a very useful tool that program staff will be able to utilize for their work investigating and cleaning up contaminated sites. Another important value of using GIS is the ability for local governments, developers, consultants and the general public to seek information about these sites. Anyone with a computer and an Internet connection will one day be able to look at a contaminated property and find out where it's located, its history, types of pollutants on site, investigation, clean up history and more.

Work is just beginning on the GIS, but we anticipate making this technology available to our customers in the near future. Other state agencies, like the departments of Commerce and Transportation, are busy setting up their own GIS sites which will one day interface with our own site.

With innovative technologies like GIS on the horizon, the Remediation and Redevelopment Program staff have high hopes for a successful beginning to the year 2000 and beyond.

The Wisconsin Remediation and Redevelopment Annual Report is a publication of the Wisconsin Department of Natural Resources Remediation and Redevelopment Program.

For more information about Remediation and Redevelopment programs, call the RR Information Line at 800-367-6076 (in-state long distance) or 608-264-6020 (Madison area and out-of-state long distance), or visit our web site at www.dnr.state.wi.us/org/aw/rr.

Upon request, this report can be made available in other formats, such as Braille, large type or audiotape. The Wisconsin Department of Natural Resources provides equal opportunity in its employment, programs, services and functions under an Affirmative Action Plan.

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